CLAIMS

1. A valve adapted to control a flow of abrasive particles suspended in a pressurised carrier fluid, comprising at least two apertured valve seat means each having a contact face in contact with a corresponding opposing contact face of another of said at least two apertured valve seat means and being translationally slideable in contact therewith and with respect thereto between a first position in which the apertures of each valve seat means are aligned so that fluid may pass through said apertures, and a second position wherein the aperture in one valve seat means is blocked by the contact face on another to stop flow through the valve, wherein the valve seat means each comprise an outer layer of material with a hardness, as measured on the Mohs scale, of at least 9.

2. A valve as claimed in claim 1, comprising two valve seat means, one being translationally slideable in contact with the other and with respect thereto.

3. A valve as claimed in claim 1, comprising three valve seat means, a median one of which is translationally slideable in contact with the outer ones and with respect thereto.

4. A valve as claimed in claim 2, wherein at least one of said valve seat means comprises diamond.

5. A valve as claimed in claim 2, wherein at least one of the valve seat means comprises a composite diamond/ceramic material.

6. A valve as claimed in claim 5, wherein a median one of the valve seat means comprises two layers of such composite material, with their ceramic faces joined together.

7. A valve as claimed in claim 1, comprising means to urge said valve seat means together, such as spring means adapted to urge the valve seat means one towards the other and/or the pressure of the carrier fluid exerted on one of the valve seat means.

8. A valve as claimed in claim 7, wherein the flow of abrasive particles and carrier fluid passes to a seat means through a tube adapted to allow sliding movement of the seat means and to transmit thereto a force urging the seat means together.

9. A valve as claimed in claim 1, provided with slide means, to which one of the valve seat means is mounted, adapted to be moveable translationally by external actuating means, optionally pneumatic actuating means, thereby causing said one valve seat means to move between said first and said second positions.

10. A valve as claimed in claim 1, further comprising turning means to rotate at least one of said valve seat means and/or its slide means in relation to another.

11. A valve as claimed in claim 1, further comprising a container assembly adapted to contact a supply of abrasive particles for use in an abrasive fluid jet machining apparatus, said assembly comprising a container for said abrasive particles closeable sealably by means of a cap, said cap comprising an inlet means connected to a riser tube within said body, each of such restricted bore as substantially to prevent liquid flow therethrough, except under an imposed pressure differential, and an outlet means, the bore of which comprises such a restriction as substantially to prevent flow therethrough, except under an imposed pressure differential.

12. A valve as claimed in claim 11, wherein the container contains a supply of abrasive particles suspended in a carrier fluid.

13. A valve as claimed in claim 12 wherein the carrier fluid is water, and said abrasive particles comprise particles of garnet, olivine or aluminum oxide.

14. An apparatus for machining a workpiece, comprising pressurizing means, a storage vessel for a supply of abrasive particles, a nozzle, and a valve as claimed in claim 1 upstream of the nozzle, adapted to interrupt flow through the nozzle.

15. An apparatus as claimed in claim 14, wherein the pressurizing means further comprises means momentarily to increase the pressure at a point between the nozzle and the storage vessel to a level exceeding that present in the storage vessel prior to actuation of the valve to interrupt flow through the nozzle.

16. An apparatus as claimed in claims 15, comprising valve means openable to cause an increased proportion of the fluid to flow from the pressurizing means directly to the point.